

REMARKS/ARGUMENTS

Overview

The present application includes claims 1-22. With this amendment Applicants have amended claims 17 and 20, withdrawn claims 2, 5-7, and 9-11, and added claims 23-25. As such, claims 1-25 are pending in this application with claims 2, 5-7, and 9-11 being withdrawn.

Restriction Requirement

Applicants affirm the election of claims 1-4, 8, and 12-22. This grouping of claims includes all of the independent claims presented in the application. Applicants have listed dependent claims 2, 5-7, and 9-11 as withdrawn. However, as explained herein Applicants submit that the respective independent claim from which claims 5-7, and 9-11 depend from are in condition for allowance. As such, allowance of claims 5-7, and 9-11 is respectfully requested at least for the reasons presented regarding the respective independent claim.

Drawings

The undersigned spoke with Examiner Jackson by telephone on August 21, 2007 regarding the objection to the drawings and in particular that the objected to elements were present in the drawings. Examiner Jackson agreed to remove the objection to the drawings and instructed the undersigned to state so in this response. Approval of the drawings is respectfully requested.

Claim Rejections

The Examiner rejected claims 1, 3, 4, and 8 under 35 U.S.C. 103(a) as being unpatentable over US Patent 4,667,660 to Eingorn ("Eingorn").

The rejected claims include independent claim 1 from which the remaining claims depend. Eingorn is directed to a UNIVERSAL ORTHOPEDIC TRACTION TONGS ASSEMBLY.

Claim 1

Applicant submits that Eingorn, does not disclose, teach, or suggest the apparatus for limiting the movement of the head of a person of independent claim 1 comprising "a link system including a plurality of links; a first plurality of constraints rigidly coupled to a first link of the

link system and adapted to engage the left half of the head of the person; and a second plurality of constraints rigidly coupled to a second link of the link system and adapted to engage the right half of the head of the person; wherein the link system is ... configured to simultaneously adapt to changes in the geometry of the head such that the head remains generally fixed over a period of time. "

Referring to Fig. 2 of Eingorn, a pin 184 includes a pin head 186 which engages the head of the wearer. Pin 184 is moveable relative to a shaft 112 of pin 25. Pins 25 are threaded into openings 110 of straps 18, 20, 22, and 24.

In the Office Action, the Examiner states that Eingorn discloses a first constraint (25) coupled to a first link (20) and a second constraint (25) coupled to a second link (24). The Examiner further stated that the constraints (25) are pins (112) including pin heads (186).

As recited in claim 1, the apparatus includes a link system and coupled thereto a first plurality of constraints and a second plurality of constraints both of which engage the head. Further, the link system (which as laid out in claim 1 does not include the constraints) is configured to "adapt to changes in the geometry of the head such that the head remains generally fixed over a period of time." At least this limitation is not disclosed, suggested, or taught by Eingorn.

Outside of the movement of pin 184 which is internal to constraint 25, the system disclosed by Eingorn appears to be a fixed system whose configuration does not change absent some manual intervention. Therefore, the link system of Eingorn does not adapt to changes in the geometry of the head.

For at least this reason, Applicant submits that independent claim 1 is in condition for allowance. Such action is respectfully requested.

As an additional point, if it is argued that only pin 184 of Eingorn is the constraint and that shaft 112 along with spring 190 is part of the link system (which is in contradiction to the assertions in the Office Action), then Eingorn still does not disclose, teach, or suggest the apparatus of claim 1.

Under this supposed argument, Applicants submit that Eingorn does not disclose, teach, or suggest "a first plurality of constraints rigidly coupled to a first link of the link system and adapted to engage the left half of the head of the person; and a second plurality of constraints rigidly coupled to a second link of the link system and adapted to engage the right half of the

head of the person." As clearly shown in Fig. 2 of Eingorn, pin head 186 which engages the head of the wearer is an end of a pin 184 (constraint under the supposed argument) which is moveably coupled to a shaft 112 (part of the link system under the supposed argument) during use of the cervical traction tong assembly. Such movement is contrary to the recitation of "rigidly coupled" in claim 1.

By way of example, the specification describes the concept of rigidly coupled as follows in numbered paragraph [0054].

It is further preferred that each pin or constraint 110, 112 be rigidly coupled to the link system 106 such that each pin or constraint 110, 112 does not move relative to link system 106 during the time head restraint member 102 is assembled to head 10. In one example, constraints 110, 112 are permanently rigidly coupled to link system 106 of head restraint member 102 by welding, gluing, epoxying, mechanical fastening, or other suitable means for permanently rigidly coupling constraints 110, 112 to head restraint member 102. In one variation, constraints 110, 112 and the respective portions of link system 106 are integrally formed or made as a single component. In another example, each pin or constraint 110, 112 is moveably coupled to link system 106 during the application of head restraint member 102 to head 10 and rigidly coupled to link system 106 such that the pin or constraint 110, 112 does not move relative to link system 106 once head restraint member 102 is applied to head 10.

(emphasis added). As indicated in the above-passage the concept of rigidly coupled means that the "constraint ... does not move relative to link system ... during the time head restraint member 102 is assembled to head 10."¹ As stated above, pin 184 (constraint under the supposed argument) moves relative to shaft 112 (part of the link system under the supposed argument) during use of the cervical traction tong assembly, and therefore is not rigidly coupled to a link of the system.

For at least this reason, Applicant submits that independent claim 1 is in condition for allowance. Such action is respectfully requested.

Claims 3, 4, and 8 depend from claim 1 and are believed to be in condition for allowance at least for the reasons given above in connection with claim 1, and for the further limitations of claims 3, 4, and 8. Such action is respectfully requested.

¹ As the above section points out, it is permissible to have a constraint which is moveably coupled (such as threaded into an aperture) during the application of head restraint but then rigidly coupled once the head restraint has been applied to the head.

The Examiner rejected claims 12-17 and 19-22 under 35 U.S.C. 103(a) as being unpatentable over Eingorn in view of US Patent 6,179,846 to McFadden ("McFadden").

The rejected claims include independent claims 17 and 20 from which the remaining claims depend with the exception of claims 12-16. McFadden is directed to a SURGICAL HEAD CLAMPING DEVICE.

Claims 12-16 depend from independent claim 1 and are believed to be in condition for allowance at least for the reasons given above in connection with claim 1, and for the further limitations of claims 12-16. Such action is respectfully requested.

Claim 17

Applicant submits that Eingorn, alone or in combination with McFadden, does not disclose, teach, or suggest the apparatus for limiting the movement of the head of a person of independent claim 17 comprising "a first link configured to support a first plurality of constraints coupled to the first link ... a second link configured to support a second plurality of constraints coupled to the second link ... a third link coupled to the first link at a first joint; a fourth link coupled to the second link at a second joint and coupled to the third link at a third joint; and a force applier coupled to the third link and the fourth link, the force applier configured to load each of the first plurality of constraints and each of the second plurality of constraints simultaneously such that each of the first plurality of constraints and each of the second plurality of constraints engages the head with generally the same amount force, wherein the first joint, the second joint, and the third joint permit the relative movement of the first link, the second link, the third link, and the fourth link over a period of time to automatically adapt to changes in the geometry of the head such that the head remains generally fixed over the period of time."

Eingorn appears to disclose a static link system which requires a manual loosening of a joint to permit the movement of one of the links. McFadden teaches a clamp having a spacer bar 50 which is manually actuated to tighten the clamp. McFadden also appears to disclose a static link system which requires a manual adjustment to the spacer bar.

As recited in amended independent claim 17, "the first joint, the second joint, and the third joint permit the relative movement of the first link, the second link, the third link, and the fourth link over a period of time to automatically adapt to changes in the geometry of the head such that the head remains generally fixed over the period of time." As such, the claimed joints

and links cooperate to adjust the relative positions of the claimed links to adapt to changes in the geometry of the head over time.

For at least these reasons, Applicant submits that amended independent claim 17 is in condition for allowance. Such action is respectfully requested.

Claim 19 depends from claim 17 and is believed to be in condition for allowance at least for the reasons given above in connection with claim 17, and for the further limitations of claim 19. Such action is respectfully requested.

Claim 20

Applicant submits that Eingorn, alone or in combination with McFadden, does not disclose, teach, or suggest the method of limiting the movement of a head of a person over time of independent claim 20 comprising the steps of "placing a first apparatus adjacent the head of the person, the apparatus including an adaptive link system which supports at least a first constraint and a second constraint located adjacent a first side of the head and a third constraint and a fourth constraint located adjacent a second side of the head; engaging each of the first, second, third, and fourth constraints with the head of the person with a force sufficient to limit the movement of the head of the person; and automatically adapting the apparatus to changes in the geometry of the head over such that the head remains generally fixed over time."

Eingorn appears to disclose a static link system which requires a manual loosening of a joint to permit the movement of one of the links. McFadden teaches a clamp having a spacer bar 50 which is manually actuated to tighten the clamp. McFadden also appears to disclose a static link system which requires a manual adjustment to the spacer bar.

As recited in amended independent claim 20, the method includes the step of "placing a first apparatus adjacent the head of the person, the apparatus including an adaptive link system which supports at least a first constraint and a second constraint located adjacent a first side of the head and a third constraint and a fourth constraint located adjacent a second side of the head." The term adaptive link system is defined in numbered paragraph [0052] of the specification as "a system of a plurality of links which is capable of automatically adapting to small changes in the geometry of head 10 once head restraint member 102 is applied to head 10 such that head 10 remains generally fixed relative to head restraint member 102." An adaptive link system is not taught by Eingorn, alone or in combination with McFadden.

For at least these reasons, Applicant submits that independent claim 20 is in condition for allowance. Such action is respectfully requested.

Claims 21 and 22 depend from claim 20 and are believed to be in condition for allowance at least for the reasons given above in connection with claim 20, and for the further limitations of claims 21 and 22. Such action is respectfully requested.

The Examiner rejected claim 18 under 35 U.S.C. 103(a) as being unpatentable over Eingorn in view of McFadden and US Patent 5,674,186 to Guigui et al ("Guigui").

Claim 18 depends from claim 17 and is believed to be in condition for allowance at least for the reasons given above in connection with claim 17, and for the further limitations of claim 18. Such action is respectfully requested.

New Claims

With this amendment, Applicant has added claims 23-25. Claims 23 and 24 depend from claim 1. Claim 25 depends from claim 20. Consideration and allowance of these claims is respectfully requested.

Final Remarks

Claims 1-25 are believed to be in condition for allowance. Such allowance is respectfully requested.

If necessary, please consider this a Petition for Extension of Time to effect a timely response. Please charge any additional fees or credits to the account of Baker & Daniels Deposit Account No. 02-0390.

In the event that there are any questions related to these amendments or to the application in general, the undersigned would appreciate the opportunity to address those questions directly in a telephone interview to expedite the prosecution of this application for all concerned.

Respectfully submitted,



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